

MANAGEMENT PLANS FOR
SIGNIFICANT PLANT AND WILDLIFE HABITAT AREAS OF
MARYLAND'S WESTERN SHORE: PRINCE GEORGES COUNTY

APPENDIX B TO
FINAL REPORT

SUBMITTED TO:

Coastal Resources Division
Tidewater Administration

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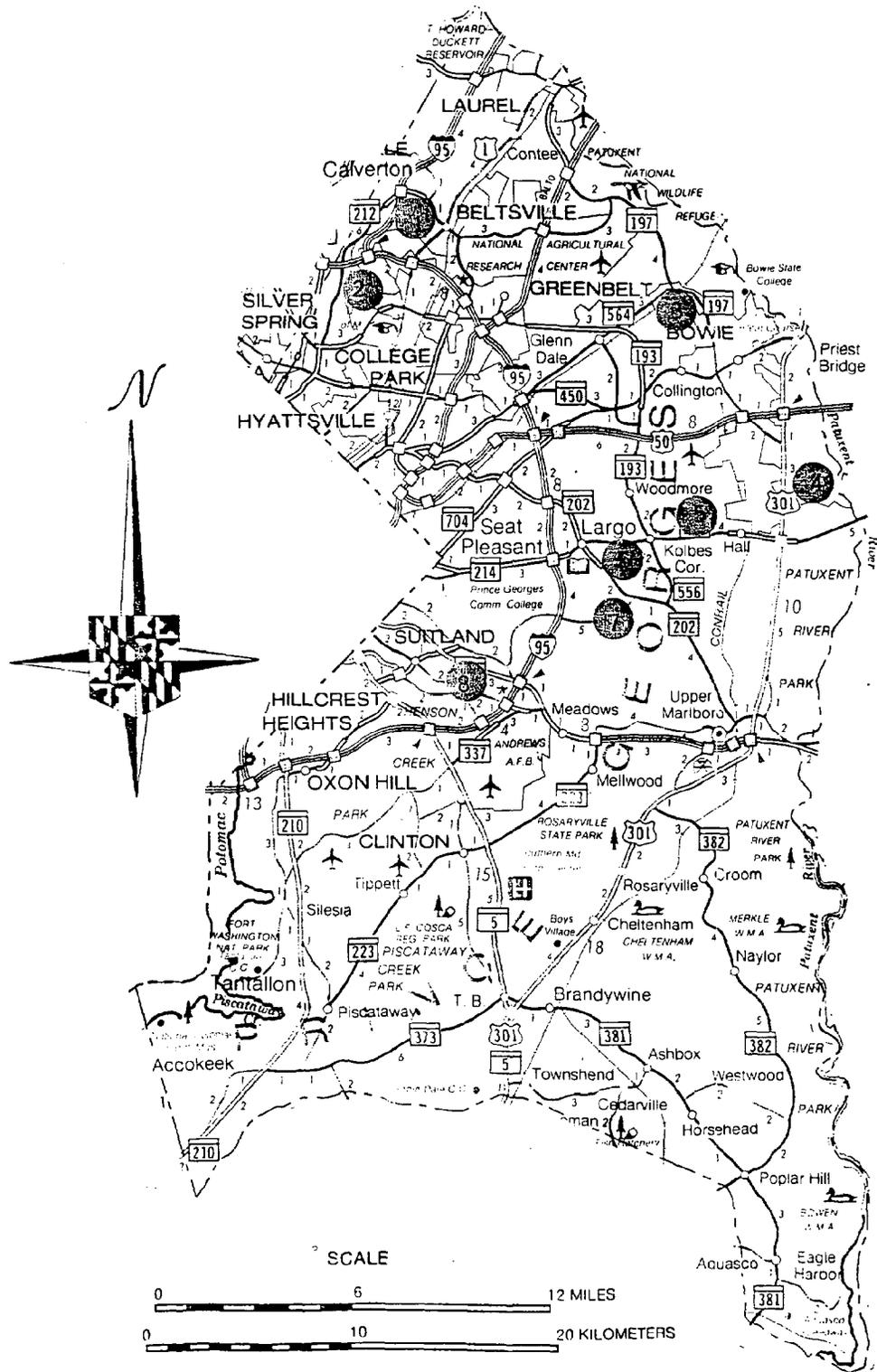
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PRINCE GEORGE'S COUNTY



 = Locations of Protection Areas of significant habitat. Sites are numbered in order from north to south.

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PRINCE GEORGES COUNTY: Protection Area Locations

<u>Protection Area</u>	<u>Site # on County Map</u>
Belt Woods.....	5
Buck Lodge Road Bog.....	2
Huntington Park Woods.....	3
Queen Anne Road Hillside.....	4
Route I-95 Bog.....	1
Southwest Branch Bottomland Forest.....	7
Suitland Bog.....	8
Watkins Forest.....	6

<u>Site # on County Map</u>	<u>Protection Area</u>
1.....	Route I-95 Bog
2.....	Buck Lodge Road Bog
3.....	Huntington Park Woods
4.....	Queen Anne Road Hillside
5.....	Belt Woods
6.....	Watkins Forest
7.....	Southwest Branch Bottomland Forest
8.....	Suitland Bog

PROTECTION AREA SUMMARY

Protection Area Name: Belt Woods

County: Prince Georges

USGS Quad: Lanham

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

The core portion of this protection area consists of Belt Woods Natural Environmental Area, a State designated Wildland. It contains an old-growth, mesic, upland forest which may never have been logged. The relative lack of disturbance is evidenced by such factors as the large diameter of many trees, light gaps, snags, standing dead and fallen timber, and well-stratified forest layers. The soil is circumneutral in acidity due to underlying Miocene shell deposits. Such soils are uncommon on the Coastal Plain, which is typically characterized by acidic soils. The rich, circumneutral soils and lack of recent disturbance have resulted in very high diversity of species in a relatively small acreage. The age and ecological importance of the site has been documented in the scientific literature. It is crucial to maintain the few remnants of our native, uncut forests in order to understand how ecological processes operate in unmanaged systems. Old-growth forests are rare in Maryland, and extremely rare in Prince George's County.

Two rare plants species occur among the diverse herbaceous species carpeting the forest floor in this protection area. One species is a wildflower known from only one other site in Maryland. The second species is known from only two other sites in the State, including only one other site in Prince Georges County.

OTHER VALUES AND SIGNIFICANCE:

The diversity and lack of disturbance at this site make it a very important habitat for many wildlife species. Standing dead timber provides sites for cavity nesting birds, and both standing and fallen logs offer den sites for small mammals. The site supports an extremely high density of forest interior dwelling birds, as measured in censuses of breeding birds throughout the State.

THREATS AND MANAGEMENT NEEDS:

Threats

Although the ancient forest at Belt Woods is protected from forest clearing by its Wildland status, current and future development of surrounding lands could destroy forested wildlife corridors that are essential to connect Belt Woods with important forest habitats in nearby parklands.

The isolation of this small but rich forest fragment has already resulted in a high ratio of "edge" to forest interior, with the concomitant increase in such edge effects as increased predation and parasitism of forest interior birds. In addition, weedy, non-native plant species tend to proliferate in response to increased sunlight at forest edges. Such species are already encroaching in some areas of the Wildland and may outcompete native species if not controlled.

Many species of plants and wildlife in the NEA are sensitive to disturbances such as trampling by pets and people. These disturbances will increase as surrounding land is developed, unless access to the NEA is restricted.

Management Needs

No removal of living or dead native forest vegetation should be conducted within the NEA. The portion of the NEA which has been cleared in the past should be allowed to succeed to forest. Clearing should be avoided on any forested property immediately bordering the NEA. At a minimum, forested corridors should be maintained as shown on the protection area map, in order to maintain forested access for forest interior dwelling birds between the NEA and nearby parklands. These corridors should be protected by conservation easements with the Maryland Environmental Trust when possible. Registry may be used to protect some portions of the corridors where easements cannot be obtained. The designated corridor width (200 ft., or 100 ft. on each side of streams) is the minimum width. The protected corridors should be enlarged where further survey work suggests a wider corridor would be feasible and useful.

Any road modifications to Church Road or Route 214 should be constructed so as not to destroy any forested land of the NEA.

Proposed developments near the NEA should be restricted to as low density as possible. Development should be planned so that homes are clustered in existing clearings and as much existing forest as possible should remain undisturbed. Common recreational areas should be located as far from the NEA as possible. Access into the NEA should be controlled by use of a

tall metal fence constructed by the developer of the property just north of the NEA, in order to limit access by pets as well as people. Signs along the fence should be informative as well as restrictive. The homeowners association should inspect the entire fenced boundary of the NEA at least once per year and should promptly repair any damage.

BOUNDARY RECOMMENDATIONS:

The protection area boundary encompasses the State-owned Natural Environmental Area, including the rare species habitats, and forested corridors which connect the NEA to nearby forested parklands.

SITE DESCRIPTION SUMMARY:

The rolling topography of Belt Woods is covered with a very old, possibly virgin stand of mesic, uplands hardwoods, dominated by large Tulip Trees and White Oaks. Black oak and Mockernut Hickory are also important canopy trees within this 189-acre protection area. A distinct subcanopy dominated by Flowering Dogwoods includes several specimens of unusually large diameter. Black Gum, Pignut Hickory, Sassafras, Red Mulberry, and Red Maple are present in the understory. Spicebush and Black Haw are dominant shrubs. A diverse herbaceous layer includes Virginia Creeper, Enchanter's Nightshade, and numerous ferns and wildflowers which carpet the forest floor in the spring. Northwest of the old forest an old field is being allowed to succeed to forest to serve as a buffer for the old forest. Forested corridors extend from the old forest to nearby natural areas to provide wildlife corridors and a seed source for native vegetation in the NEA.

Prepared by: Judith L. Robertson

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Buck Lodge Road Bog

County: Prince Georges

USGS Quad: Beltsville

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

Buck Lodge Road Bog is a sphagnous seep occurring within a powerline right-of-way. Naturally-occurring sphagnous seeps were once kept free of woody species by sporadic floods or fires. Since these natural disturbances are now suppressed by man, many of the species associated with sphagnous seeps have become increasingly rare. Powerline right-of-way maintenance prevents woody plant invasion, keeping this sphagnous seep open and allowing rare species to flourish.

The Buck Lodge Road Bog, dominated by an uncommon orchid, Roemer's Rush, and grasses, harbors populations of four rare species. Two of the rare populations have no other known occurrences in Prince Georges County. Of these two, one is known from three other sites in Maryland, all in Worcester County, while the second is known from eight sites in the State. The third rare species found in this protection area occurs at only one other site in the State, also in Prince Georges County.

This sphagnous seep is a habitat generally unfavorable to plant growth. Due to the high clay content of the soil at this seep, any moisture accumulating from precipitation or seepage tends to remain on the surface. The acidic soil is relatively poor in nutrients and highly erodible. The rare species that inhabit this area have adapted to these severe conditions. These species are seldom found in more favorable environments because they cannot compete with other, more common species.

OTHER VALUES AND SIGNIFICANCE:

This sphagnous seep may provide suitable habitat for colonization by other unusual bog species. The dense thickets of Naked Withe-rod and Red Chokeberry to the east of the seep, bordering the stream, provide food and nesting habitat for birds. The stream and adjacent upland White Oak-Chestnut Oak-Black Huckleberry woods encompassed by the protection area provide habitat for birds, amphibians, and reptiles.

THREATS AND MANAGEMENT NEEDS:

Threats

The bog inhabited by the rare species could be destroyed by changes in the quality, quantity, or acidity of water that feeds this wetland. Physical changes in the topography of the sphagnous depression or in the upland stream system may alter the water supply of the seep. Surface runoff from upland forests may be detrimental to the seep, reducing its water quality through sedimentation or chemical input. Use of herbicides near this sphagnous seep could also alter its acidity or water quality.

Maintenance of the vegetation cover within the right-of-way could prevent rare species from sexually reproducing. Physical damage to the species by mowers or recreational vehicles could reduce or eliminate the population. Recreational vehicles have already damaged the wetland, disturbing the sphagnous bed and altering the topography of the wetland.

Management Needs

A management agreement should be established between the Natural Heritage Program and the utility company in order to maintain the rare species.

Activities that could alter the quality and quantity of water that supplies the seep should be avoided. The water quality and flow of the upland stream to the west should be maintained. Forest cover of adjacent wooded slopes should remain undisturbed.

Posting of signs or fencing may be advisable in the future to limit access to the seep. Recreational vehicles should be prohibited from entering the protection area.

Management activities to remove woody species or non-native weeds should occur only after the rare species have dispersed their fruit, preferably from December through March. If herbicide use is necessary within the protection area, herbicides should be applied selectively by hand. Because of the vulnerability of the seep to physical damage, mowing should be avoided within the protection area.

The size and reproductive success of these rare species populations should be monitored periodically.

BOUNDARY RECOMMENDATIONS:

The protection area boundary includes the sphagnous seep containing the rare species, the stream to the south of the seep, and woodlands bordering the stream northwest of the seep required to maintain the hydrology and water quality of the seep.

SITE DESCRIPTION SUMMARY:

A wet sphagnous depression dominated by an uncommon orchid, Roemer's Rush, and grasses, is the focus of this 10-acre protection area. It is bordered on the east by streamside thickets of Naked Withe-rod and Red Chokeberry and on the west by mature, second-growth White Oak-Chestnut Oak-Black Huckleberry forests. The protection area is transected by a powerline right-of-way, encompassing the streamside thickets and the sphagnous depression.

The rare species populations are found only within the sphagnous seep or at its edges within the powerline right-of-way. Contiguous alluvial woods to the north-northwest within the protection area are maintained as park land. Within the powerline right-of-way and just south of the sphagnous seep, a lily farm is operated by a private landowner. A residential neighborhood is located to the east of the protection area.

Recreational vehicle tracks cross the sphagnous depression. To the east of the rare species habitat, a gravel access road passes through the middle of the powerline right-of-way.

Prepared by: Ann M. Rossheim

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Huntington Park Woods

County: Prince Georges

USGS Quad: Laurel

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

This protection area consists of a relatively old pine-oak forest and a small forested wetland. Both are dominated by native plant species with only minor evidence of invasion by weedy, non-native species. Forests of this age are becoming increasingly rare as residential and commercial development expand. The mature forest provides habitat for many woodland plant and wildlife species, including standing dead trees for cavity-nesting birds.

One of the dominant species on the wetland forest floor is a rare plant which is known from only seven other sites in the State, and no other sites in Prince Georges County. This is one of the largest populations of the species in the State, and it appears to be reproducing successfully.

OTHER VALUES AND SIGNIFICANCE:

As part of a county recreational area, the woods in this protection area offer hiking and nature study opportunities to a rapidly developing, suburban community. The woods also provide a buffer between the park and the new development planned just south of the protection area.

THREATS AND MANAGEMENT NEEDS:

Threats

Forest clearing on the adjacent uplands for timber harvest, expanded recreational development or other purposes would adversely affect the hydrology of the wetland and thus threaten the continued existence of the rare wetland species. Removal of the tree canopy would also allow increased sunlight into the wetland and encourage the invasion of weedy, non-native species which may outcompete the rare species. The wildlife values and passive recreational values of the upland forest would be lost if the forested portion of the protection area were cleared and developed.

The rare species may be adversely affected by trampling and soil compaction if nearby development results in heavy use of the bottomland forest by local residents.

Management Needs

The developer of the property containing the rare species has agreed to protect the rare species habitat and a 50 ft. buffer around it. Within this buffer, as within the entire protection area, no clearing of forest vegetation (trees or groundcover) should occur. Additionally, since this narrow buffer may be insufficient to minimize light penetration and the resultant invasion by weedy, non-native vegetation, the developers and future homeowners should be encouraged to maintain an additional 25 ft. uncut buffer of trees (groundcover may be cut) within lots that border the protection area. Homeowner covenants would be a good way to accomplish this objective.

A fence should be constructed by the developer along the back of lots bordering the protection area to discourage direct access, clearing of groundcover within the protection area, or dumping of garden debris and junk into the protection area. Access to open space should be directed toward existing paths in the upland forest of the county park. No access should be provided directly into the bottomland forest.

BOUNDARY RECOMMENDATIONS:

The protection area boundary includes the rare species habitat and adjacent potential habitat, a 50 ft. buffer on the developer's property south of the rare species population, a 100 ft. buffer north of the stream, and the existing upland oak forest on county parkland.

SITE DESCRIPTION SUMMARY:

This 15-acre protection area contains an upland mixed-oak forest and a wetland Red Maple forest that supports a rare species. The upland forest is dominated by Red and White Oaks, with Pitch & Virginia Pines also commonly occurring. A dense understory of Low Bush Blueberry covers the level ridge top. The large size of some of the oaks, frequent light gaps, fallen trees, and standing dead timber all indicate the relatively old age of the forest. On the slopes Black Gum is the dominant understory tree. Near the stream, the canopy consists almost entirely of Red Maple. A thicket of Sweet Pepperbush covers the lowest slopes, giving way to greenbrier in the bottomland. The rare species grows over the greenbrier in approximately 20 low,

thick patches up to 200 square yards in size. Large patches of club moss also occur.

Prepared by: Judith L. Robertson

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Queen Anne Road Hillside

County: Prince Georges

USGS Quad: Bowie

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

Large oaks and Beech dominate the upland forest of this slope along the Patuxent River. A rare plant species grows on the steep, eroding bank just 5 ft. above the water and near the crest of the steep, north-facing slope. This species is known from just five other sites in the State. This is the only known site for this species in Prince Georges County. These sites in Maryland are near the northern limit of the range of this species. In our State, the rare species is only known to inhabit steep, shaded slopes above streams and rivers in areas that have received little recent artificial disturbance.

OTHER VALUES AND SIGNIFICANCE:

These scenic slopes along the Patuxent River offer excellent opportunities for hiking and nature study. The forest within the protection area, along with the forest north and south of the area, offer habitat for forest interior dwelling birds.

These forested slopes contribute to maintaining the water quality of the Patuxent River.

THREATS AND MANAGEMENT NEEDS:

Threats

Clearing of trees within the protection area would promote severe erosion of the steep slopes and could destroy the rare plant population. Clearing on either the north- or adjacent south-facing slope would also increase the penetration of sunlight and eliminate the shady habitat required by the rare species.

Recreational development on the State-owned land within the protection area could damage the rare plants by increasing the rate of erosion and by introducing the potential for trampling by hikers.

Management Needs

The clearing of trees should be avoided within the protection area.

In order to avoid damage from excessive erosion or trampling, if a hiking trail is planned for this area, it should be located at least 50 ft. beyond the crest of the slope.

In order to maintain the natural character of the area, the fields in the south-central portion of the area should be allowed to revert to forest.

BOUNDARY RECOMMENDATIONS:

The steep slope inhabited by the rare species, the upland within 100 ft. of the crest of the slope, and adjacent potential habitat are included within the protection area. The adjacent south-facing slope is included within the protection area in order to promote the conservation of forest cover on this slope and maintain the shady habitat required by the rare species.

SITE DESCRIPTION SUMMARY:

A small stream flowing into the Patuxent River carved the steep ravine that lies at the center of this 62-acre protection area. Species of oak, including Spanish Oak and White Oak, and Beech dominate the upland forest canopy. Mountain Laurel is abundant along the slopes. Early Saxifrage grows along the eroded river banks in the vicinity of the rare plant species. Where a low floodplain lies between the steep slopes and the river, Sycamore, Green Ash, and Red Maple are abundant.

On the adjacent uplands are fields to the south and west of the protection area. The Patuxent River forms the eastern boundary of the area. Portions of the forest north of the area were recently logged.

Prepared by: Katharine A. McCarthy

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Route I-95 BOG

County: Prince Georges

USGS Quad: Beltsville

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

The unusually sandy, acidic soil within this powerline right-of-way supports rare plant communities both in sphagnum bogs at low elevation and on the dry, open uplands. Several similar bogs, historically referred to as powder mill bogs, were reported from Prince Georges County in the early 1900s. The flora reported for these bogs is remarkably similar to that of bogs in the pinelands of southern New Jersey. This site may be a remnant of such a bog. With the exception of Suitland Bog, none of the bogs historically reported in this region is known to exist today. All have apparently been drained or filled during the commercial and residential development of this suburban area.

Two rare plant species grow in or along the edge of bogs in this right-of-way. Both species are near the limits of their ranges. One species is known from just five other sites in the State. This population is large and the plants flower profusely. This is the larger of the two populations known in Maryland for the other rare species that inhabits the bog.

On the uplands with the right-of-way grows a rare species known from five other sites in the State. Although this population is relatively small, all of the plants observed were flowering and appeared vigorous.

OTHER VALUES AND SIGNIFICANCE:

Due to the loss of natural habitat, powerline rights-of-way have become increasingly important habitat for some rare species. Further survey may reveal other rare species within the protection area.

THREATS AND MANAGEMENT NEEDS:

Threats

Although maintenance of the right-of-way is probably essential to the survival of the rare species, it also has the potential to destroy these plants. Mowing or the application of herbicide during the flowering or fruiting period of the rare

species would prohibit successful sexual reproduction and would most likely eliminate the rare plants.

A decline in the quality or quantity of water that feeds the bog would be detrimental to the rare species.

Management Needs

A management agreement should be initiated between the power company and the Natural Heritage Program in order to maintain the rare species within the right-of-way. Mowing and other right-of-way maintenance activities should occur in early spring, preferably in late March or early April. Activities that would reduce the quality or alter the quantity of water that feeds the wetlands of the protection area should be avoided.

BOUNDARY RECOMMENDATIONS:

The protection area includes all known rare species populations, and adjacent potential habitat within the right-of-way.

SITE DESCRIPTION SUMMARY:

This 22-acre protection area includes both sandy uplands and bogs that harbor rare plant species. Maintenance of the right-of-way has prevented a forest canopy from developing. On the sandy uplands, Common Greenbrier and Glaucous Greenbrier form a thorny thicket. Tick-trefoil and boneset are abundant. Loose-headed Beakrush, species of rush, St. John's-wort, and Maryland Milkwort are abundant within the sphagnous bogs. Nearby wetlands that lack sphagnum are dominated by Buttombush, alder, and a variety of herbaceous species.

Route I-95 borders the protection area to the west, and a county park lies to the east. Much of the surrounding land has been developed for residential use.

Prepared by: Katharine A. McCarthy

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Southwest Branch Bottomland Forest

County: Prince Georges USGS Quad: Lanham, Upper Marlboro

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

The rich soil along the banks of Southwest Branch sustains an unusually luxuriant cover of spring wildflowers. Within this diverse herbaceous layer is a species known from just two other sites in the State. The rare species grows vigorously in this bottomland forest dominated by large Tulip Trees and Spicebush. In Maryland, all of the known sites for this species are in Prince Georges County. This species is also rare in adjacent states.

OTHER VALUES AND SIGNIFICANCE:

Within this rapidly urbanizing area, the mature bottomland forest offers outstanding recreational and educational opportunities such as hiking, birdwatching, and nature study, for local residents.

This forest maintains the water quality and flow-level of Southwest Branch by filtering runoff from adjacent uplands and by absorbing floodwaters.

THREATS AND MANAGEMENT NEEDS:

Threats

The clearing of trees within the protection area would destroy the shady, mature forest habitat required by the rare species. Forest clearing would also promote the growth of non-native, weedy species that have already established within the protection area due to disturbance around the perimeter. These weedy species could outcompete and exclude the rare species.

A decline in water quality or change in the stream flow of Southwest Branch would be detrimental to the rare species. This species is an annual which establishes in areas that periodically flood.

Management Needs

The clearing of trees should not occur within the protection area.

Non-native, weedy species should be monitored. If these species are determined to be a threat to the rare species, their growth should be controlled.

The size and reproductive success of the rare species population should be monitored.

Activities such as damming, stream channelization or wetland drainage or filling that would alter the volume or flow rate of Southwest Branch in or near the protection area should be avoided. Activities proposed upstream or within the protection area that would reduce water quality in the protection area should be avoided.

BOUNDARY RECOMMENDATIONS:

The protection boundary includes the rare species' population, adjacent potential habitat, and a forested buffer required to maintain the rare species habitat. The boundary extends to the forest edge along a residential development to the south and along roads to the north and west.

SITE DESCRIPTION SUMMARY:

Tulip Tree, Box Elder, and River Birch line the banks of Southwest Branch within this 60-acre protection area. Spicebush is abundant. The colorful wildflower display begins in early April with Spring Beauty, Golden Ragwort, and Dutchman's Breeches, and continues through May with Virginia Bluebells and Virginia Waterleaf. The rare species blooms along the stream banks in late April and May.

Residential developments nearly surround the protection area. A landfill lies east of the area. A road bisects the eastern end of the protection area, and another road forms the northern boundary of the area.

Prepared: Katharine A. McCarthy

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Suitland Bog

County: Prince Georges

USGS Quad: Anacostia

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

Suitland Bog is the last relatively undisturbed example of more than ten bogs historically reported in Prince Georges County. Commercial and residential development have destroyed or drastically altered all but this bog. Bogs are rare throughout the Coastal Plain of Maryland. The saturated, acidic soil characteristic of sphagnum bogs such as this is unfavorable to the growth of most plants. A few unusual plant species have adapted to this harsh environment, including the six rare plant species and 13 uncommon plant species that inhabit Suitland Bog. This is Maryland's only known site of one of these species, while another of the rare plant species is known from just two other sites in the State. Four rare plant species that grow in Suitland Bog are known from fewer than twelve sites in the State.

OTHER VALUES AND SIGNIFICANCE:

At least 13 other rare and uncommon species were reported historically from Suitland Bog but have not been seen recently. Further survey in spring and early summer may reveal the presence of some of these species that would not have been identifiable during our late summer survey of the bog.

The location of this bog in an urban area greatly enhances its educational value for nature study.

THREATS AND MANAGEMENT NEEDS:

Threats

The most immediate threat to this area is succession to woody vegetation. Closing of the canopy by encroaching shrubs and trees would likely eliminate the rare, shade-intolerant bog species that occur here. In the past, naturally occurring fires were among the mechanisms responsible for maintaining this open-canopy habitat. Because fires are now artificially suppressed, they no longer exert a major influence on the maintenance of this bog.

Too many uncontrolled visitors to the bog also poses a major threat to this highly sensitive habitat and its rare species.

plant collecting by unscrupulous botanists and uninformed visitors could readily decimate rare plant populations. Visitors straying from the boardwalk could cause soil compaction, alter surface hydrology, and trample vegetation.

A potential threat to the bog occurs some 150 yds to the east where construction of recreational facilities is presently underway. Construction operations could affect the hydrology of the entire area, posing a direct threat to the bog's water supply. An inadequate supply of water could result in the drying-out of the bog and loss of rare species. Of particular concern is the type of surface planned for the parking lot. An impervious surface covering a large area could alter the quantity of water feeding the bog.

Management Needs

Succession of the open-canopy, bog habitat to woody vegetation must be controlled in order to maintain the rare species populations. Due to the highly vulnerable nature of this habitat use of machinery to clear woody growth should be avoided. Neither is the use of herbicides recommended, as the risk of damage to the rare species would be too great. Physical removal of woody vegetation by volunteers should be considered, but trampling could be deleterious. Therefore, controlled burning may be a preferred method for controlling woody invasion of the bog. This method not only eliminates the need for disturbing the soil, it simulates a naturally occurring mechanism that once played an important role in maintaining this open-canopy habitat.

Access to the bog should be strictly limited. Signs requesting that visitors remain on the trail and boardwalk should be posted. These signs should explain the sensitive nature of the area and request that visitors refrain from collecting or otherwise damaging vegetation.

A study of the hydrology of the bog should be initiated. If on-going construction of recreational facilities poses a threat to the bog's water supply, corrective measures must be undertaken immediately. Water quality and quantity should be monitored on a regular basis. To assure ground water recharge from the uplands, a porous rather than an impervious surface should be planned for the parking lot, and the size of the lot should be minimized.

Because the size and reproductive success of rare species populations is indicative of the relative condition of a bog, a monitoring program for the rare species should be implemented.

BOUNDARY RECOMMENDATIONS:

The protection area boundary includes the sphagnum bog, the stream and swamp adjacent to it, and the dry upland forest surrounding it. To the east it incorporates the uplands up to but not including the recreational facilities. This area is necessary as buffer and protection for the bog's water supply. It also includes the slope west of the stream adjacent to a housing development. This area is important as buffer and supports at least one rare species. The area to the north is included as buffer to protect the water quality of the stream.

SITE DESCRIPTION SUMMARY:

This 27-acre protection area includes an upland forest and several types of wetlands, including emergent marsh, a magnolia swamp, and seepage slopes. The focal point is the two-acre sphagnum bog occurring on a west-facing seepage slope. Within the bog, open areas lacking woody vegetation harbor numerous rare plant species, including orchids, sedges, grasses and carnivorous plants. Woody species, primarily Sweet Bay, Red Maple, alder, blueberry, and azalea, are encroaching into the open-canopy habitat. The soil underlying the bog is composed of sand and gravel. Through this porous substrate the seeps appear to flow relatively constantly throughout the year. A chain-link fence encircles the main bog, and a trail and boardwalk offer access.

A dry pine-oak forest dominated by Pitch and Virginia Pine surrounds the bog. Below the bog is a small stream that flows through a swamp dominated by Sweet Bay. Several small, partially open seeps occur along the east side of this stream a short distance south of the main bog. Several rare species occur in these seeps. North of the bog, at the headwaters of the stream, is a complex of open swamp forest with emergent marsh. A power-line crosses the protection area between the bog and the emergent marsh. Several weedy species of Polygonum dominate the marsh, and non-native, weedy species are common in the powerline right-of-way. Scattered small sphagnum seeps occur on the slopes east of the marsh, and greenbrier is common in the swamp forest.

Roads form the southern boundary of the protection area. A housing development occupies the crest of the western slope and forms the western boundary of the protection area. In the past a large sand and gravel mining operation occurred on the uplands along the eastern boundary. This area is presently being converted to sports fields and other active recreational facilities.

Prepared by: Richard H. Wiegand

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Watkins Forest

County: Prince Georges

USGS Quad: Lanham

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

This bottomland forest along Western Branch and the mesic upland forest on the adjacent slopes are outstanding examples of the Tulip Tree-dominated forests characteristic of the stream valleys of this county. Much of the forest within the protection area shows little sign of recent disturbance, and large sections of the forest are old. Forested areas of similar age are rare on the Upper Coastal Plain. Within the older sections of the forest is a rare plant species known from just two other sites in Maryland. This species is abundant and contributes to the impressive display of spring wildflowers that carpets the forest. A second rare plant species grows along a hiking trail in the bottomland forest. Only four other sites of this species are known in the State. Just a few individuals of this rare spring wildflower were observed.

OTHER VALUES AND SIGNIFICANCE:

The well-stratified canopy of the old forest provides excellent habitat for a variety of forest interior dwelling birds. Studies of the bird populations conducted by staff of the U.S. Fish and Wildlife Service have documented several forest interior species breeding in this forest. Clearing for residential and commercial development and for agriculture has severely fragmented the forests of Prince Georges County, eliminating most of the available habitat for these species. This is one of the few large tracts of forest remaining in the area.

Its proximity to the urban and suburban communities bordering Washington, D.C. enhances the value of this area for passive recreational uses such as hiking, birdwatching, and other types of nature study. The regional park's nature center adjacent to the protection area provides excellent opportunities for environmental education related to the old forest. Students have the chance to see the vegetation and the animals associated with the old forest, and to observe the natural ecological processes that maintain the forest.

THREATS AND MANAGEMENT NEEDS:

Threats

Stream channelization, damming, wetland drainage, the filling of wetlands, or other hydrological changes to the area would be detrimental to the rare species. The rare species require the natural frequency and amplitude of stream flooding to maintain their floodplain habitat. Both rare species are annuals and are therefore extremely vulnerable to habitat alterations.

Clearing of trees within the protection area would promote the growth of non-native, weedy species that may out compete the rare species.

Management Needs

Non-native, weedy species are well-established in some portions of the protection area. These species should be monitored, particularly in the vicinity of the rare species, and steps may be required to control their growth.

The size and reproductive success of the rare species populations should be monitored. Trailheads should be posted with signs notifying visitors that this is a unique and sensitive natural area and requesting that visitors refrain from picking flowers or otherwise damaging the vegetation.

BOUNDARY RECOMMENDATIONS:

The protection area includes the rare species habitat, adjacent potential habitat required to protect these rare annual species, and a forested buffer that is required to maintain the rare species habitat. The buffer also provides habitat for forest interior dwelling birds.

SITE DESCRIPTION SUMMARY:

Tulip Tree, Sweet Gum, and Green Ash dominate the bottomland forest canopy of this 195-acre protection area. Spicebush is the most abundant bottomland shrub. The herbaceous layer is well developed and diverse. Spring Beauty, Mayapple, and Sweet Cicely are the most abundant herbaceous species and dominate the wildflower display in spring.

In the wettest areas along Western Branch, Sycamore, Box Elder, and Red Maple are abundant. Areas of open, emergent marsh occur in depressions in the bottomland forest.

The mesic upland forest in the northern portion of the protection area is dominated by Tulip Tree, with Flowering Dogwood, Spicebush, and arrow-wood common in the understory. The herbaceous layer is well-developed in some areas, and includes Wild Ginger, Jack-in-the-pulpit, and Yellow Corydalis.

Residential developments border the protection area to the north and west. Farm fields occur to the south, and the park's picnic areas border the protection area to the east. A powerline bisects the park at the eastern edge of the protection area.

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